THE LAND IS LEAVING

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SUMMARY

Soil erosion has been going on since the world began. It is this process that created our present agricultural soils. When man begins to remove the protective vegetation from the land, erosion takes place very rapidly and can destroy vast areas in only a few years. This did not bother the early American farmer for he could always move to some section that had never been subjected to the harsh treatment of human cultivation. Today this is not possible and farmers are being confronted with a very grave problem. How can they keep their farm from being carried away by the wind and water? The government has been taking an important part in solving this problem during the past ten and fifteen years. The Soil Conservation Service has been created and is engaged in carrying on all work of this type. It has a tremendous job because erosion has been working unimpeded for many years. There are many ways that erosion may be stopped. The main ones are strip cropping, reforestation, and controlled plowing. The problem seems to be coming under control but only very slowly. A Cherokee Indian wrote the following essay when he saw a picture of a dilapidated farm house and a badly washed field:

"Both pictures show white man crazy. Make

big tepee. Plow hill. Water wash. Wind blow soil, grass all gone. Squaw gone, papoose too. No chuckaway. No pig, no corn, no hay, no cow, no pony. Indian eat buffalo. Hide make tepee, moccasins, too. Indian no make terrace. No build dam. No give A DAMN All time eat. No hunt job. No hitch-hike. No ask relief. Great Spirit make grass. Indian no waste anything. White man much crazy."

The Indian seems to express both the cause and cure for soil erosion very well.

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The land is leaving. How many of us realize the seriousness of this statement? "The civilization of this country is founded on nine inches of top soil. When it is gone civilization will go with it." This is evident in many parts of the world. In one section of the French Niger Colony in South Africa there exists one of the most dreaded desert regions in the world. There is evidence, however, that less than 200 years ago this same desert section contained many farming districts and was heavily populated. Will anything like this ever happen to the United States? Let us see!

We saw, just a few years ago, how the careless farming of vast sections brought about disaster. We all remember the "Dust Bowl" which covered many of the Mid-Western states and destroyed many acres of valueable farm land, some of which we are still unable to use at the present time. This was caused by the lack of vegetation in this section. It was not until this problem arose that our government realized the vast job of reclamation and control of soil erosion. There was no information to show the extensive damage caused by wind, rain, floods, or most important of all, carelessness. Here was a problem that had been growing ever since the United States had developed into an agricutural nation

and yet we have just started to realize and control it. Just what causes erosion and why is it so serious?

Plowing, when done improperly, leaves a bare, unprotected surface for the elements to work upon. The rain will wash it, the sun will bake it and the wind will dry it and blow it away. Erosion, will not occur, of course, if these conditions are balanced. There are different types of soil erosion that occur. Sheet erosion, in which the whole top layer of soil is removed uniformly, is, consequently, not very noticeable. Rill erosion is caused by the water concentrating in streams and washing small cuts in the field. Gully erosion is caused by large quantities of water following well defined paths which may become as much as 100 ~~degrees~~ FEET deep. Soil carried away by any of these methods can never be replaced. Since the average layer of topsoil, which is the most important in agriculture, is only about 8 inches deep, it does not take very long for the entire layer to be removed. It is estimated that in fields that are constantly cultivated this will only be 16 to 51 years. It would take 4000 to 96,000 years if theground were covered with vegetation. In 1935 a study showed that there was about 414 million acres of cropland in the United States. Of this, 100 million acres has been either totally or severely damage by erosion. Thus, we can see that if all these conditions continue to exist it would

not take very long for the entire agricultural status of the United States ~~economics~~ TO BREAK DOWN. What are we doing to control this national menace?

There are many theories, some tested and some not, that have been suggested to control or stop soil erosion. Mr. Edward Faulkner wrote a book called "Plowman's Folly". He contends that by plowing the ground we expose it to the elements without any protection against erosion. Faulkner believes in building up the soil from the top down as nature does it. Instead of plowing all the weeds and rubbish under, he cuts it up and lets it decay on the surface. This method was used back in the 1930's in the "Dust Bowl". This has checked the destruction of vast areas very effectively. This new kind of farming has necessitated the development of new tools. The implement companies are experimenting with many different kinds for the realize that there will be a great change over to this new type of farming. The primary function of these machines is to cut the top layer of soil away from the subsoil. It also cuts the roots of vegetation in the field but leaves the ground surface well protected.

Another way of controlling erosion is strip cropping. This, as its name implies, does not expose all of the ground surface to the elements at one time. The most effective type is contour stripping. In this

method a farmer divides his fields in long narrow strips which follow closely the contour lines. The crops are alternated in these strips so that a cultivated crop is next to an uncultivated crop and so on. This will eliminate the danger of erosion and save many acres from being destroyed. I have seen fields that have been continually cultivated and washed until there is nothing but bare rock where once nine inches of top soil had been. An orchard has been planted and the erosion has been checked to a great extent. However, it is doubtful if the land will recover sufficiently to make it suitable for the growing of crops. If strip cropping had been applied to this area before it had been completely ruined it would still be productive. Most of our farmers fail to see or do anything about erosion until it has reached a serious condition.

Since the deforestation of land is condusive to erosion, it is only natural that reforestation is a means to prohibit and correct erosion. It has long been known that forests greatly reduce the amount of soil that is carried to the river and is detrimental both to the land and to the stream due to its silting effect. Each year the melting snows of the Middle West cause the Mississippi River to overflow or even flood surrounding farm land and towns. If these conditions are to be corrected we must control the flow of water and soil to the

river. The vast amounts of silt that settle in the river bottom shallow it and thus cause it to widen and flood adjacent lands. If the water from the snow can be controlled by the use of proper agricultural practices, the floods will be largely eliminated. In Northern Mississippi in 1931 and 1932 cultivated fields were losing 34 tons of soil per acre while forest areas were losing 75 pounds per acre.

Erosion has probably reached its maximum development at the present time. The government had not taken any steps to control this situation until a few years ago. Now the Soil Conservation Service is one of the largest and most important services in the government. It is carrying on its work in many different parts of the United States receiving many encouraging results. If the American farmer will take care of his land as suggested by the men of this service, he will save both himself and his government many millions of dollars a year and the United States will be well on the way to bring this enormous problem to a successful termination.

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